

FLIGHT ENGINEERS: GOING

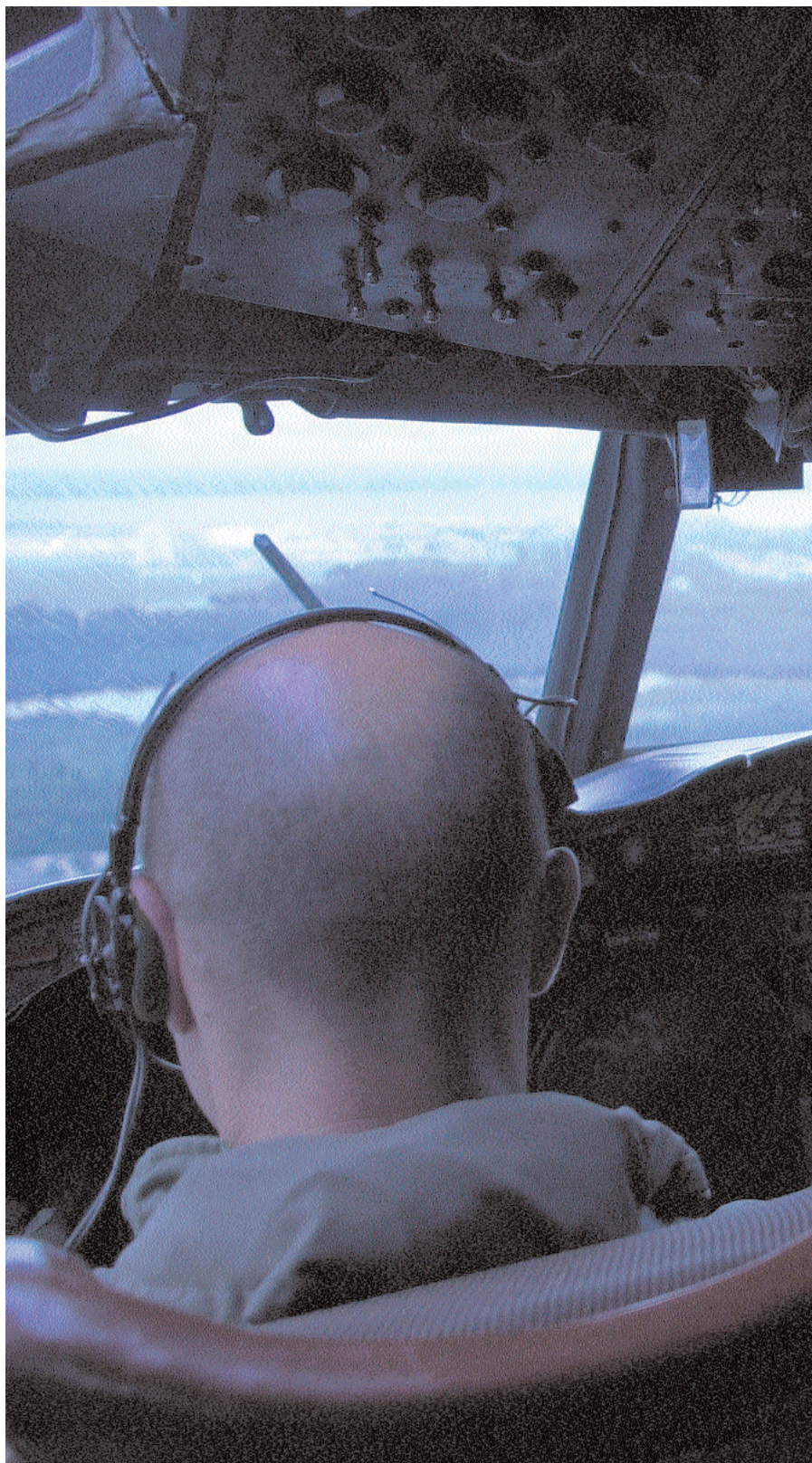
Story and Photos by JO3 Dan Ball

Naval Flight Officers and enlisted aircrew personnel find themselves at NAS Jacksonville, Fla., learning new skills at the Navy's maritime patrol fleet readiness squadron, VP-30. Many of the aircrew personnel are here for a daunting task, becoming a Naval Flight Engineer (FE). Outside of the hangar, row after row of P-3 Orions bake in the sun. Some are haze gray and some sport the new glossy paint. Inside, the white cinderblock halls are almost like a public school except that the decorations are squadron insignia, award plaques and photos of P-3s in action. Instructors walk to various classrooms holding massive cups of coffee. Around the Flight Engineer classrooms students crowd the hallways waiting for the morning lectures. They are wearing flight suits and talking about power plants.

These FE candidates have gone through weeks of memorization and can rattle off facts about the P-3 with ease. Ultimately, their goal is to become a member of the three-person P-3 cockpit flight team, a unique enlisted role in the Navy.

Flight Engineers sit in the cockpit between the two pilots and fill an integral role in the P-3's mission. They are responsible for preflight and postflight inspections, starting and monitoring the engines, operating aircraft systems, fuel management, flight planning, servicing and the proper execution of normal and emergency procedures required for the safe operation of the aircraft. Because they are experts on all of the aircraft's power plant and airframe systems, they are the enlisted crew leaders on the Orions. If there is a problem with the aircraft, the FE is the one who is expected to take care of it. Nothing

Flight Engineer student Aviation Structural Mechanic (AM) Second Class Michael Pavich, opposite page, gets instruction during a P-3 Orion training flight.



A STEP FURTHER





Above, P-3 Orions fly constantly out of NAS Jacksonville, Fla., regardless of weather. Right, AM2 Pavich checks the prop during a postflight inspection.

about a P-3's operation should take the Flight Engineer by surprise.

In the fleet a typical day for an FE involves a 10- to 12-hour mission, starting with the aircraft's logbook and the preflight checklist. "The engineer is the first person out to the airplane and is solely responsible for getting it ready for the crew," said Aviation Electrician's Mate (AE) First Class (AW) Ronald Darr, an FE instructor at VP-30. "They get power on the plane and make sure it's fueled. They do the fuel planner for the mission along with the plane commander to make sure there is enough fuel to complete the mission." After the mission the engineer does a one- to two-hour postflight inspection.

The Flight Engineer curriculum at VP-30 is very demanding. In 29 weeks the students completely learn the intricacies of the P-3 airframe and power plant systems. FE students arriving at VP-30 for the first time take a naval air maintenance training (NAMTRA) preparatory course before entering the FE pipeline, which includes four phases. All of the phases require dedication, heavy memorization and in-depth study to achieve the required minimum. Students must achieve an 80-percent score on every written and practical lesson.

The class work consists of lectures, homework, pop quizzes and exams. The ratio of instructors to students is very small, and there is plenty of one-on-one training in conjunction with night school for study assistance. The instructors also release their home numbers so they can be available at any time if a student has a question. Throughout the course, FE students receive 11 aircraft familiarization flights, 4 tactical training flights, 3 navigation





training flights and 22 simulator sessions.

The course breaks down into four phases. In phase A instructors use the systems knowledge gained from the NAMTRA course and apply it to procedures. "The students start learning how to operate the actual aircraft," said instructor AE1(AW) Aaron Swoyer. "Toward the end of phase A they are learning about takeoff performance from charts that compute proper takeoff speed and distance." In phase B students learn weight, balance and center-of-gravity issues for the P-3, take their first flights and continue to study systems procedures. Phase C introduces flight planning, during which students learn how to estimate fuel for how long they can stay on station, or if they must shut down an engine, and plan the best altitude and air speed to get from point to point. The student also becomes observer qualified in phase C. By the time the D phase is reached, the student is combining all of the previous lessons and putting them into practical use





Left, potential Flight Engineer students must complete naval air maintenance training in order to move into the Flight Engineer instruction pipeline. Middle, FE school instructor AE1(AW) Ronald Darr starts the day's training process at 0330. Bottom, AM2 Pavich refuels the aircraft following a training flight.



as well as practicing for the Naval Air Training and Operating Procedures Standardization exam, a thorough test of P-3 operations, procedures and systems knowledge.

Throughout the course students and instructors work closely together. An instructor's typical day starts the day before, when he or she checks the flight schedule and makes plans for certain teaching points. If a student's schedule calls for in-flight instruction rather than classroom time, the student and instructor will meet in the shooter shack, where they examine the aircraft's log and sign off on it. Next, the instructor stands by as the student goes through the preflight checklist, sometimes with instruction manual in hand, and questions the





VP-30 utilizes several flight simulators, left, to enhance the realism of FE training. Below, an FE instructor quizzes a student on systems and procedures during a preflight check. Bottom, AE1(AW) Darr, right, and AM2 Pavich thoroughly study an aircraft logbook before signing off on it.

reasoning behind the student's actions. It's not enough that students know how to check a system; they have to know why they are checking it. During the training flights, which usually last about five hours, the instructor quizzes the student and simulates system malfunctions. Aircrew coordination is instilled, and the engineer must learn good communication skills with the pilots. Training also takes place in flight simulators, and the three-hour flights can get very intense. During these sessions the instructors have the opportunity to simulate problems more realistically, involving all of the lights and gauges that are affected when a system fails. The students are pressed to use everything they have learned to keep the aircrew safe.



After all flights the student performs the postflight checklist before meeting the instructor for debriefing, which can last up to three hours. The instructor reviews the mission from the time the student set foot in the shooter shack to the end of the postflight check. They discuss the student's strengths and weaknesses, questions from the flight and what the student learned on the

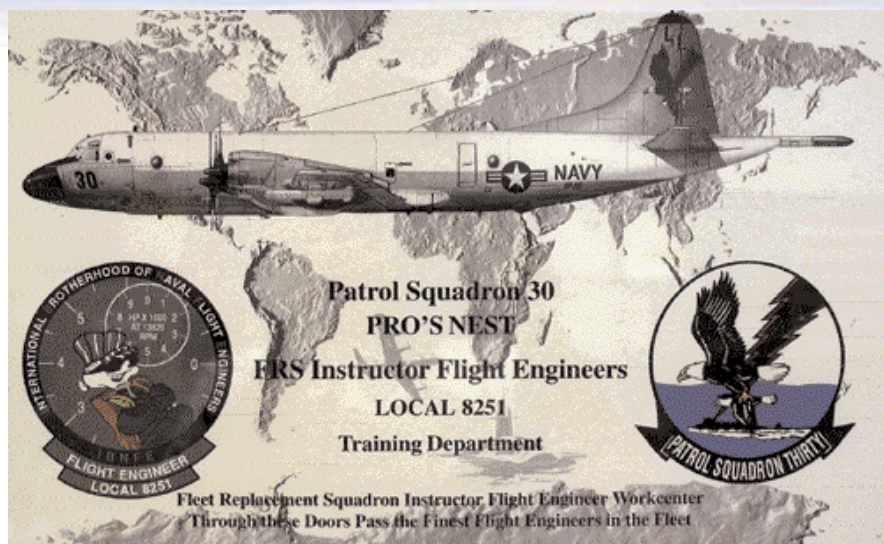




flight, and make plans for future instruction.

Outside of schoolwork, students can find plenty of things to do in the Jacksonville area. There is a nearby mall with movie theaters and lots of water activities and beaches. Students either live in town or in the barracks. There is a galley, but most students rely on commuted rations because of their schedules. Along with their studies, FE students participate in physical training three times a week.

Only certain ratings are eligible to enter the FE program. Typically the program looks for aviation structural mechanic, aviation machinist's mate or aviation electrician's mate ratings, E-4 or above. Highly motivated airmen in these ratings are encouraged to apply and if accepted will enter the program after completion of "A" school. Previously qualified in-flight aviation ordnancemen and aviation electronics technicians are accepted on a case-by-case basis. "We're trying to widen the realm," said Darr. "We spread the word to the enlisted aviation communities that if you're a hard charger and you want to fly, this is a good opportunity. There's no other job like it in the Navy."



Top, the constant training at VP-30 keeps the maintenance division busy 24 hours a day. Above, a plaque inside the FE instructors' office bears the FE's 8251 NEC. Opposite, various procedures keep FE students busy during training flights. Though under supervision, students play a major role in ensuring safe flights.

After graduation from FE school, the service member must complete the Survival, Evasion, Resistance and Escape School, obtain the appropriate security clearance and obligate three years service. Graduates have up to 12 months to complete these qualifications. Once assigned to a P-3 squadron, FEs enjoy the highest selective reenlistment bonus in their community, and draw monthly career enlisted incentive flight pay and special duty assignment pay for the NEC 8251.

Flight Engineers are considered the elite among the enlisted ranks of the P-3 community. They have taken their jobs a step further and shouldered extra responsibility, which earns the respect of every crew member in the aircraft. The FE's job is challenging, and the satisfaction of getting the plane and crew safely through each mission is extremely rewarding. ✈

For more information on Flight Engineer training and VP-30 go to www.cnet.navy.mil/vp30home/index.htm.

